COLUMNAR SECTIONS

GENERALIZED SECTION FOR THE LARAMIE QUADRANGLE. SCALE: 1 INCH = 1000 FEET.										
System.	Seri	IES.	Formation.	Sум воц.	COLUMNAR SECTION.	THICKNESS IN FEET.	Character of Rocks.	CHARACTER OF TOPOGRAPHY AND SOILS.		
TER- TIARY			Undifferentiated Tertiary.	Tu		200–250	Sand, gravel, and bowlder beds.	Rolling plains. Good soil and pasture land.		
S			Mesaverde formation.	Kmv		2000	Gray sandstone and sandy shale, with massive hard gray to buff sandstone at base.	Ridges and sandy slopes. Sandy soil.		
ACEOU		MONTANA GROUP	Steele shale.	Ks		2500- 3000	Dark-gray shale containing fossiliferous concretions, with thin beds of sandstone.	Broad valleys, mostly covered by Quaternary deposits. Clay soils.		
		COLORADO GROUP	Niobrara limestone. Benton shale. (Mowry shale member.)	Kn Kb (Kmr)	0.00	325–400 700–1000 (100)	Impure chalky limestone and gray limy shale. Weathers yellow. Gray shale containing dark concretions, with gray sandstone and concretions near the top. Hard gray shale, weathers light, with many fish scales.	Yellow bluffs and valleys mostly covered by Quaternary deposits. Rich soil. Valleys and slopes, mostly covered by Quaternary deposits. Clay soil.		
OR JUR,	L. CR		Cloverly formation.	Kc .		70–100	Dark-gray shale, thin sandstone, and bentonite. Hard gray sandstone and purple to gray sandy clay.	Ridges and rocky slopes. Thin sandy soil.		
TRIASSIC OR CR			Morrison formation. UNCONFORMITY Chugwater formation.	Km Tac		1100	Massive green shale with thin limestones and sand- stones. Red sandy shale, fine-grained massive sandstone, mostly red, and heavy beds of gypsum near base.	Ridges, buttes, and slopes. Red sandy soil, mostly barren.		
Sn	PENNSYLVANIAN		Forelle limestone.	Cf	mannanna mannessa. Tumminin mikisa.	0-20	Gray limestone, locally gypsiferous.	Rocky slopes. Thin, limy clay soil.		
CARBONIFEROUS		- FINISCI FAULT	Satanka shale. UNCONFORMITY Casper formation.	Cs Cc		\ 0-230 800-1000	Red sandy shale with local gypsum deposits. Gray to red sandstone, gray to purple limestone, and red shale. Mostly red sandstone to south and west; limestone to north and east.	Valley with red sandy soil. Mountain slopes and rocky ledges. Soil mostly thin and sandy.		
RE-CAMBRIAN			Granite, gneiss, and schist.				Mainly Sherman granite, with subordinate gneiss, schists, and acidic and basic intrusive rocks.	Rugged mountains with numerous rock exposures.		
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	GENERALIZED SECTION FOR THE SHERMAN QUADRANGLE. SCALE: 1 INCH = 1000 FEET.										
System.	SER	RIES.	Formation.	Ѕұмвоц.	Columnar Section.	THICKNESS IN FEET.	CHARACTER OF ROCKS.	CHARACTER OF TOPOGRAPHY AND SOILS.			
TERTIARY		MIOCENE	Arikaree formation.	Ta		200–250	Sand, gravel, and bowlder beds, with local limestone lens.	Wide, nearly smooth plains. Good soil and pasture land.			
	CENE	TE RIV	Brule clay.	Tb		250	Massive pinkish sandy clay, with gravelly streaks.	Badlands. Poor soil,			
	OLIGOCENE	WHIT	Chadron sandstone.	Tc		20-100	Massive brown sandstone, merging into sand and gravel.	Rocky ledges and plateaus. Sandy soil.			
			Fox Hills sandstone.	Kfh		700+	Gray sandstone and sandy shale.	Ridges and sandy slopes. Sandy soil.			
CRETACEOUS	UPPER CRETACEOUS	1 1	Pierre shale.	Кр		5000	Dark-gray shale containing fossiliferous concretions, with thin beds of sandstone.	Valleys and slopes, mostly covered by Quaternary and Tertiary deposits. Clay soil.			
		GROUP	Niobrara limestone.	Kn		325-400	Impure chalky limestone and gray limy shale. Weathers yellow. Massive gray limestone at base.	Yellow bluffs and valleys, mostly covered by Quaternary deposits. Rich soil.			
		COLORADO GI	Benton shale. (Mowry shale member; not shown on map.)	Kb		700-1000	Gray shale containing dark concretions, with gray sandstone and concretions near the top. Hard gray shale, weathers light, with many fish scales. Dark-gray shale and thin sandstones.	Valleys and slopes, mostly covered by Quaternary deposits. Clay soil.			
CRET. OR JUR,	L, C	RET.	Cloverly formation.	Kc /	and promise the same	70–100	Hard gray sandstone and purple to gray sandy clay. Massive pale-green to maroon shale with thin lime-	Ridges and rocky slopes. Thin sandy soil.			
JURASSIC	-		Morrison formation. Sundance formation.	Km Js	and the state of t	150-200 30-60	stones and sandstones. Buff slabby sandstone and sandy gray shale.	Slopes mostly covered by talus. Clay soil, Slopes mostly covered by talus. Sandy soil.			
TRIASSIC OR PERMIAN ?			Chugwater formation.	Tac			Red sandy shale, fine-grained massive sandstone, mostly red. and thin limestones and deposits of gypsum near the base.	Ridges, buttes, and slopes. Red sandy soil, mostly barren.			
CARBONIF- EROUS		S PENNSYLVANIAN	Casper formation.	Сс		800–1000	Gray to red sandstone, gray to purple limestone, and red shale. Gray to reddish-brown sandstone and conglomerate at the base.	Mountain slopes and rocky ledges. Soil mostly thin and sandy.			
PRE-CAMBRIAN			Granite, gneiss, and schist.				Mainly Sherman granite, with subordinate gneiss, schists, and acidic and basic intrusive rocks.	Rugged mountains with numerous rock exposures.			

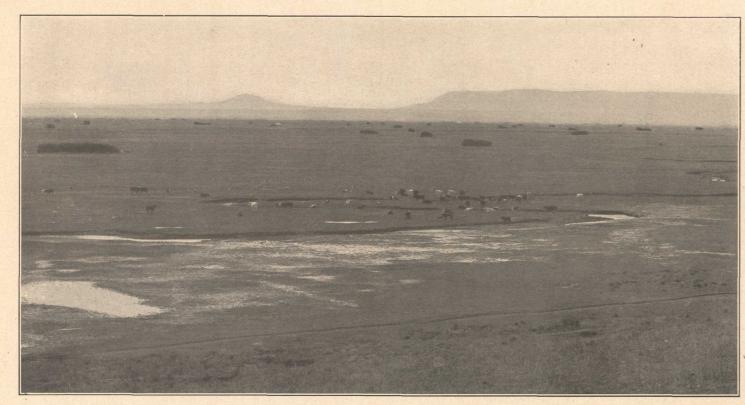


FIGURE 4.—LARAMIE PLAINS, LOOKING SOUTHWEST FROM RIDGE 2 MILES NORTH OF MANDEL, WYO.

Little Laramie River in foreground. Sheep Mountain to left of center,



FIGURE 5.—CONGLOMERATE OF THE ARIKAREE FORMATION LYING ON BRULE CLAY.

Near Horse Creek, in T. 17 N., R. 70 W. Looking south.

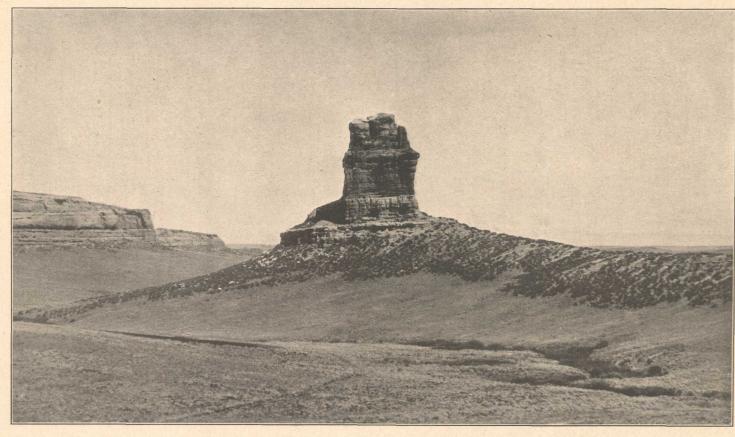


FIGURE 6.—STEAMBOAT ROCK, COMPOSED OF MASSIVE SANDSTONE IN THE CHUGWATER FORMATION.

Twenty-six miles southwest of Laramie, Wyo. Looking north.

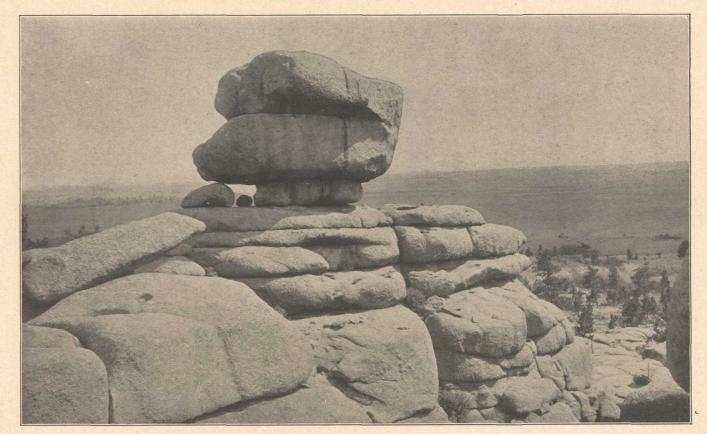


FIGURE 7.—SHERMAN GRANITE ON SUMMIT OF LARAMIE MOUNTAINS, WEST, OF SHERMAN, WYO.

Showing horizontal sheeting and rounded forms resulting from weathering. Wide rolling plain of the mountain plateau in the background.

Looking north.

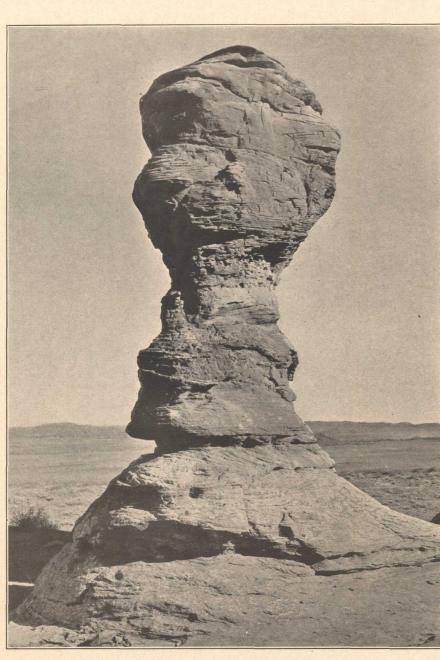


FIGURE 8.—MONUMENT OF CROSS-BEDDED RED SANDSTONE OF THE CASPER FORMATION AT RED BUTTE, WYO.

The monument is about 20 feet high.

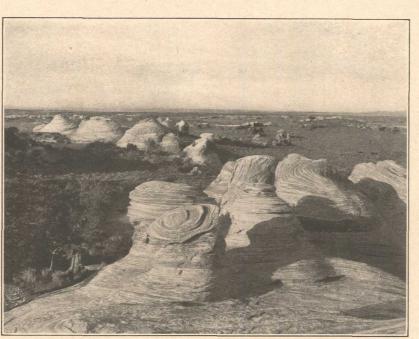


FIGURE 9.—CROSS-BEDDED SANDSTONE IN THE CASPER FORMATION, SAND CREEK, WYO.



FIGURE 10.—CHIMNEY ROCKS ON SOUTH BANK OF HORSE CREEK, EAST OF DAVIS RANCH, COMPOSED OF FOX HILLS SANDSTONE.

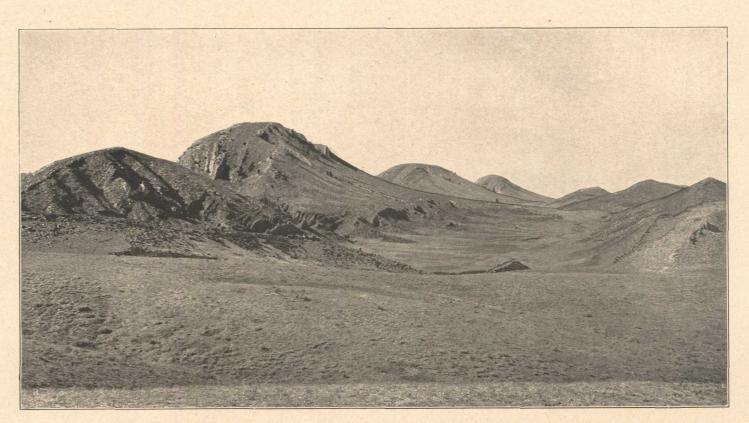


FIGURE 11.—LIMESTONE FRONT RIDGE ON EAST SIDE OF LARAMIE MOUNTAINS, WEST OF HORSE CREEK STATION, WYO.

Looking north. High ridges, Casper formation; Red Valley and low ridge of Cloverly sandstone to right.